

ABSTRACT OF THE DISCLOSURE

The method for forming a capacitor of a semiconductor device includes the steps of forming a first insulation layer on the upper surface of a semiconductor substrate, forming a second insulation layer on the upper surface of the first insulation layer, and forming a third insulation layer on the upper surface of the second insulation layer. The third insulation layer and the second insulation layer are sequentially etched to form at least one hole over a cell region of the semiconductor substrate. Next a conductive layer is formed over the semiconductor substrate, and Chemical Mechanical Polishing (CMP) is performed until an upper surface of the third insulation layer is exposed. Then, portions of the third insulation layer and slurry material from the CMP are removed from the cell region.